**HW ANSWERS p. 455 Day 1**

**7)**

(a) False. Higher confidence means higher MOE

(b) True. Larger n => smaller MOE

(c) True. Think of the formula.....

(d) False. To cut MOE in half, need 4x as big of a sample

**12)** = 0.15 n= 525

(a)

STATE CHECK

- SRS - assumed representative

- n > 10 - (525)(0.15) > 10

n > 10 (525)(0.85) > 10

- pop > 10*n -* There are more than 5250 chickens

Conditions met 🡪 N(0.15, 0.0156) 🡪 1 prop Z Interval

(b) = = (0.1195, 0.1805)

(c) We are 95% confident that the true % of chickens infected with Salmonella is between 11.95% and 18.05%.

**13)** 2007: n = 1006 = 36%

(a) MOE = = 0.0249

(b) We are 90% confident that this sample's result is within about 2.5% of the true proportion of people who like baseball

(c) Larger. Because the Z\* would be 2.576, not 1.645

(d) MOE = (2.576) = 0.039

(e) Less confidence

(f) No. Our full interval for 95% confidence for 2007 would be (0.335, 0.385), which still contains 37% (the value from '06)

**15)** = 4781/100,000 = 0.04781 n= 100,000

(a)

STATE CHECK

- SRS - stated random sample

- n > 10 - (100,000)(0.04781) > 10

n > 10 (100,000)(0.04781) > 10

- pop > 10*n -* There are more than 1,000,000 potential donors

Conditions met 🡪 N(0.04781, 0.0006747) 🡪 1 prop Z Interval

= = (0.04649, 0.04913)

We are 95% confident that the true % of potential donors who make a donation after receiving the mailing labels & greeting cards is between 4.649% and 4.913%.

(b) No, I do not believe that the true rate is 5%. Our interval states with 95% confidence that we believe that the true % is between 4.65% and 4.91%. Also, we have such a large sample size (100,000), causing me to believe my results even more.